

REMARKS

Claims 1-17 are pending. Claims 1-4, 9, and 11-14 are withdrawn from examination. Claims 5-8, 10, and 15-17 stand rejected. Claim 5 is an independent claim.

Claim 10 stands rejected under 35 U.S.C. 112, second paragraph, for reciting a “third heat treatment” where its base claim does not recite a first and second heat treatment. In response, applicant has removed the term “third” from claim 10. Accordingly, applicant respectfully requests removal of this rejection on claim 10.

Claim 16 stands rejected under 35 U.S.C. 112, second paragraph, for allegedly failing to specify the basis “45%.” In response, applicant has amended claim 16 to recite that the concentration of the colloidal silica is 45% or more by weight. Applicant respectfully submits that it is well known in the industry of colloidal silica that the concentration of colloidal silica is defined by weight. As such, claim 16, as amended, clearly points out and distinctly claims the subject matter which the applicant regards as the claim and complies with the requirement of 35 U.S.C. 112, second paragraph. Applicant respectfully requests removal of this rejection on claim 16.

Claim 5 stands rejected under 35 U.S.C. '102(b) as allegedly being anticipated by Szekeres *et al.* (M. Szekeres, I. DèKány, A. de Keizer, Adsorption of dodecyl pyridinium chloride on monodisperse porous silica, Colloid and Surfaces A: Physicochemical and Engineering Aspects 141, 327-336 (1998)) (“Szekeres”). Claim 5 also stand rejected under 35 U.S.C. '103(a) as allegedly being obvious over Szekeres.

Claim 5 recites “washing the colloidal silica with deionized water...” The specification notes that washing with deionized water removes byproducts such as alcohol ingredient and basic catalyst (page 8, line 12-14).

Szekeres, however, does not disclose washing of the colloidal silica with deionized water, as recited in claim 5. Instead, Szekeres discloses that deionized water is used to prepare “all solutions” (§ 2.3). The phrase “all solutions,” however, refers only to the HCl and KOH solutions described in immediately preceding sentence; the clause does not refer to the water used to wash the silica described in the previous section (§ 2.3). As such, there is no indication in Szekeres that the water used to wash the silica particles is achieved with deionized water. Therefore, applicant respectfully submits that Szekeres fails to show the method of “washing the colloidal silica with deionized water,” as recited in claim 5 and fails to anticipate and/or render claim 5 obvious.

Moreover, claim 5, as amended, now recites “adding a basic organic material to the colloidal silica to adjust a hydrogen ion concentration (pH) in range of 12 to 12.8.” Support for the amendment can be found in the original claim 17.

Applicant respectfully submits that in producing colloidal silica, it is difficult to manufacture a monolith of any shape by gelation of highly concentrated colloidal silica using silicon alkoxysilane. The conventional method has problems of defect formation, such as cracks, that may occur during drying process attributable to high concentration of the colloidal silica. Moreover, high concentration of the colloidal silica may also induce agglomeration of the silica particles. However, by adding a basic organic material to the colloidal silica and maintaining the pH level in range of 12 to 12.8, as recited in claim 5, the present invention achieves high concentration and large colloidal silica particle size, while preventing formation of defects, such as cracks, during drying process (see page 9, line 2-6).

Applicant respectfully submits that no reference discloses adding a basic material to adjust pH of the colloidal silica to the range of 12 to 12.8. In particular, Szekeres merely adds

either HCl or KOH, none of which is a basic organic material, to adjust pH level of the silica from approximately 3 to 9. Romberger, meanwhile, discloses adding ammonium hydroxide to raise the pH level in the range of 8 to about 11.3. So, unlike present claim 5, adjusts pH level of the ethyl solvent to the level of 11 to 11.5. Wolter fails to disclose adding a basic material to adjust pH of colloidal silica altogether.

Therefore, references, alone or in combination, fails to show “adding a basic organic material to the colloidal silica to adjust a hydrogen ion concentration (pH) to the extent that the hydrogen ion concentration (pH) of colloidal silica becomes 12 to 12.8,” as recited in claim 5, and fail to anticipates and/or renders all features of claim 5 obvious. Applicant respectfully requests reconsideration and withdrawal of the rejection in accordance to such non-anticipation and non-obviousness.


Other claims in this application are each dependent on the independent claim 5 and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Amendment
Serial No. 10/607,156

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

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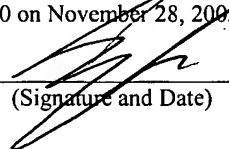
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